



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,442	08/20/2003	Donald W. Dine	G00351/US	7016

7590 09/13/2004  
MICK A. NYLANDER  
3300 UNIVERSITY DRIVE  
AUBURN HILLS, MI 48326

EXAMINER
----------

BINDA, GREGORY JOHN

ART UNIT	PAPER NUMBER
----------	--------------

3679

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/644,442

Applicant(s)

DINE ET AL.

Examiner

Greg Binda

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20030820</u> | 6) <input type="checkbox"/> Other: ____  |

*Drawings*

1. The drawings are objected to because reference numerals 30 & 32 are each used to identify a part and then reused to identify a modification of such part. Such usage is proscribed. See MPEP § 608.02(e). (See the support member in Fig. 2 with four radial elements with axial grooves 43; the modified support member in Fig. 3 with four radial elements with circumferential grooves 44; and the other modified support member in Fig. 4 with six radial elements with no grooves.)
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

3. The disclosure is objected to because:
  - a. Page 7, line 15 includes an undefined acronym, NVH.
  - b. Page 9, line last, numeral “42” should be changed to “43”.
4. The specification is objected to as failing to comply with 37 CFR 1.71 and 1.75(d)(1) because the detailed description fails to provide proper antecedent basis for the following claimed subject matter: See MPEP §§ 2163.06III and 2163.07
  - a. Claim 14: all limitations therein.
  - b. Claim 18, lines 6 & 7: “opposing pairs of radial elements”
  - c. Claim 19: “the number of opposing pairs of radial elements equals 2”
  - d. Claim 20: “the number of opposing pairs of radial elements equals 3”

*Claim Objections*

5. The claims are objected to as failing to comply with 37 CFR 1.75(i) because elements of the claims are not separated by line indentation.

*Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

Art Unit: 3679

which applicant regards as the invention. The term "thin" in claims 1, 12 & 18, lines 1 is a relative term which renders the claims indefinite. The term "thin" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

*Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-5, 7, 8, 11, 12, 15, 16 & 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Andress, US 5,839,961. Figs. 1-4 show a propeller shaft comprising a thin-walled metal tubular member 1; a joint element 2, 6 fixed to each end 4, 5 of the tubular member; and a plastic support member 10 fixed within the tubular member. Figs. 2-4 show the support member comprises: three radial elements 30 extending a first length within the tubular member and engaging an interior surface 16 of the tubular member 1; and a central hub 7 coaxially located within the tubular member 1. Figs. 2-4 show each radial element includes an enlarged end portion 22 with an axial groove.

10. Claims 1, 2, 7, 9, 11, 12, 15, 18 & 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Witort et al, US 3,110,754. Fig. 1 shows a propeller shaft comprising a thin-walled tubular member 20; and a joint element 19, 21 fixed to each end 4, 5 of the tubular member. Fig. 4 shows a support member 35 fixed within the tubular member, the support member comprising four radial elements extending a first length within the tubular member and engaging an interior surface 16 of the tubular member 1; and a central hub coaxially located within the tubular member. Fig. 15 shows each radial element includes a plurality of openings 82.

11. Claims 1, 2, 7, 8, 11, 12, 15, 18 & 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa, US 6,010,407. Fig. 16 shows a propeller shaft 10 comprising a thin-walled tubular member 11; a joint element fixed to each end of the tubular member (see “engine” and “rotating body” in col. 1, lines 7 & 8); and a support member 19 fixed within the tubular member. Fig. 16 shows the support member comprises: six radial elements 191 extending a first length within the tubular member and engaging an interior surface of the tubular member; and a central hub (surrounding the element 13) coaxially located within the tubular member 11. Fig. 3 shows the tubular member 11 comprises metal. In col. 1, lines 52 & 53 the support member is disclosed as comprising plastic.

12. Claims 1, 2, 7, 8, 11, 12, 15, 18 & 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Holemans et al, US 2003/0144062. Fig. 1 shows a propeller shaft 10 comprising a thin-walled tubular member 16; a joint element fixed to each end of the

Art Unit: 3679

tubular member (see “rotatable member” and “engine” in paragraph 0002); and a support member 14, 18 fixed within the tubular member. Fig. 1 shows the support member comprises: four radial elements 14 extending a first length within the tubular member and engaging an interior surface of the tubular member; and a central hub 18 coaxially located within the tubular member 16. In paragraph 0028 the tubular member 16 is disclosed as comprising metal and the support member 14, 18 is disclosed as comprising metal, plastic or reinforced plastic.

13. Claims 1, 3, 4, 6, 10-14 & 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hendrian et al, US 6,450,890. Figs. 2 & 3 show a propeller shaft 12 comprising a thin-walled tubular member 60; a joint element 32, 70 fixed to each end of the tubular member; and a support member 62-64 fixed within the tubular member. Fig. 3 shows the support member comprises a plurality of radial elements 62 & 64 extending a first length within the tubular member and engaging an interior surface of the tubular member. Fig. 3 shows each radial element includes an enlarged end portion 71 & 73 with a circumferential groove 75 & 77. Fig. 3 shows the length of the support member 62-64 is less than the length of the tubular member 60. Fig. 7 shows an opening (for the screw 98) in the radial element.

### *Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sparrow shows a shaft with a support member 14 with a hole 15.

Art Unit: 3679

Reed, Weatherwax, Rinkewich and Zen each show a hollow tube with an inner support member comprising a plurality of radial elements.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (703) 308-2686. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Binda  
Primary Examiner  
Art Unit 3679